

CLAIMS

1. A plug-in unit assembly comprising instrument transformers, including a case assembly (1) comprising a connector assembly (10), and a plug-in unit (2) comprising at least one instrument transformer (3, 4) and configured to be connected to the case assembly (1), whereby, when the plug-in unit (2) is being inserted into the case assembly (1), said at least one instrument transformer (3, 4) is configured to be connected to the connector assembly (10) and is selected from a set comprising current transformers (3) and voltage transformers (4), **characterized** in that the set from which said at least one instrument transformer (3, 4) of the plug-in unit (2) is selected, is composed of instrument transformers coded in such a manner that the codings of the current transformers (3) and the voltage transformers (4) are different, and in that the connector assembly (10) is capable of identifying the type of said at least one instrument transformer (3, 4) based on its coding when the plug-in unit (2) is being connected to the case assembly (1).

2. An assembly as claimed in claim 1, **characterized** in that the assembly is arranged such that the connection of the plug-in unit (2) for the first time to the case assembly (1) achieves changes in the connector assembly (10), which are based on a type identification carried out based on the coding of the instrument transformers (3, 4), and which, when the plug-in unit (2) connected to the case assembly (1) is being detached from the case assembly (1), cause the connector assembly (10) to short the current circuit corresponding to each current transformer (3) and to leave open the voltage circuit corresponding to each voltage transformer (4).

3. An assembly as claimed in claim 1 or 2, **characterized** in that the coding of the different kinds of instrument transformers (3, 4) is implemented by the coil body structures of the current transformers (3) and the voltage transformers (4) being different from each other.

4. An assembly as claimed in any one of claims 1 to 3, **characterized** in that the assembly is arranged such that when the plug-in unit (2) is connected for the first time to the case assembly (1), changes occur in the connector assembly (10) of the case assembly (1), which in the future prevent the connection of such a plug-in unit (2) to the case assembly (1) that comprises a different combination of current transformers (3) and voltage transformers (4) than did the plug-in unit (2) that was connected to the case assembly (1) for the first time.

5. An assembly as claimed in claim 4, **characterized** in that for each instrument transformer (3, 4) to be connected thereto, the connector assembly (10) comprises a short-circuit element (5) and a pair of contacts (11), the first contact being configured to be connected to a first terminal of the corresponding instrument transformer (3, 4), and the second contact being configured to be connected to a second terminal of the instrument transformer (3, 4), whereby, when the plug-in unit (2) is connected for the first time to the case assembly (1), the short-circuit element (5) corresponding to each voltage transformer (4) switches to an operational state wherein it does not short the corresponding pair of contacts (11) in any situation, whereas the short-circuit element (5) corresponding to each current transformer (3) switches to an operational state wherein it shorts the corresponding pair of contacts (11) when the plug-in unit (2) is being detached from the case assembly (1), and, correspondingly, when the plug-in unit (2) is being connected to the case assembly (1), removes the short circuiting of the pair of contacts (11), allowing the current circuit to circulate via the current transformer (3).

6. An assembly as claimed in claim 4, **characterized** in that each short-circuit element (5) comprises a substantially cylindrical body (6), a short-circuit bit (8) configured to short the pair of contacts (11) corresponding to said short-circuit element (5) when necessary, a spring means (7) configured to push the short-circuit bit (8) outwards substantially in the radial direction of the body (6), and a rotating means (9) configured to rotate the short-circuit element (5) around the axis of rotation of the cylindrical body (6).

7. An assembly as claimed in claim 5, **characterized** in that the body (6) of the short-circuit element comprises a cavity (12) configured to receive the spring means (7) and the short-circuit bit (8) at least partly.

8. An assembly as claimed in claim 3, **characterized** in that the coil body structure of each instrument transformer (3, 4) comprises a coding bracket (13), which, seen from a given direction, is shaped like a rectangle whose one front corner is bevelled such that the bevelled part extends at least up to the imagined midline of the coding bracket (13).